

Figure 1

Human Nrg-ICD Polypeptide Sequence

SEQ	ID	NO:	
KTKKQRKKLHDRLRQSLRSENNVMNMANGPHHPNPPPDNVQLVNQYVSKNIIS			1
SERVVERETETSFSTSHYTSTTHHSMTVTQTPSHSWSNGHTESILSESHSVLVSSSV			
ENSRHTSPTGPRGRLNGIGGPREGNSFLRHARETPDSYRDSPH			
SERYVSAMTTPARMSPVDFHTPTSPKSPPSEMSPPVSSLTISPSVAVSPFMDEERP			
LLLVTPPRLREKYDNHLQQFNSFHNNPTHESENSLPPSPLRIVEDEEYETTQEYEP			
QEPKKL TNSRRVKRTKPNGHISSRVEVDSDTSSQSTSSESETEDETRTGEDTPFLSI			
QNPMATSLEPAAAYRLAENRTNPANRFSTPEELQARLSSVIANQDPIAV			

Figure 2

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/ gene="Nrg1"
/ note="IG; Region: Immunoglobulin"
/ db_xref="CDD:smart00409"
misc_feature 1038..2222
/ gene="Nrg1"
/ note="Neuregulin; Region: Neuregulin family"
/ db_xref="CDD:pfam02158"
BASE COUNT 900 a 867 c 743 g 762 t
ORIGIN
1 gcggccgcag ctgccgggag atgcgagcgc agaccggatt gtgatcacct ttccctcttc
61 gggctgtaag agagcgagac aagccaccga agcagaggcca ctccagagcc ggcagcggag
121 ggaccggga cactagagca gctccgagcc actccagact gagcggacgc tcaggtgat
181 cgagtccacg ctgctcctg caggcgacag gcgacgcctc ccgagcagcc cggccactgg
241 ctctccctt cctgggacaa acttttctgc aagcccttgg accaaacttg tcgcgcgta
301 ccgtcaccca accgggtccg cgtagagcgc tcatcttcgg cgagatgtct gagcgcaaag
361 aaggcagagg caaggggaag ggcaagaaga aggaccgggg atcccgggg aagcccgggc
421 ccgccgagg cgaccgagc ccagcactgc ctcccagatt gaaagaaatg aagagccagg
481 agtcagctgc aggtccaag ctagtctcc ggtgcgaaac cagctccgag tactctcac
541 tcagattcaa atggtcaag aatgggaacg agctgaaccg caaaaataaa ccagaaaaca
601 tcaagataca gaagaagcca gggaagtcag agcttgaat taacaaagca tccctggctg
661 actctggaga gtatatgtgc aaagtgatca gcaagttagg aaatgacagt gcctctgcca
721 acatcaccat tgttagtca aacgagtca tcactggcat gccagcctcg actgagacag
781 cctatgtctc ctgagagtct ccattagaa tctcagttc aacagaaggc gcaaacactt
841 ctcatccac atcaacatcc acgactggga ccagccatct cataaagtgt gcggagaagg
901 agaaaacttt ctgtgtgaat gggggcgagt gcttcacggt gaaggacctg tcaaaccctg
961 caagatactt gtgaagtgc ccaaatgagt ttactggtga tcgttgcaa aactacgtaa
1021 tggccagctt ctacaaagcg gaggaactct accagaagag ggtgctgaca attactggca
1081 tctgtatcgc cctgctggtg gtcggcatca tgtgtgtgtt ggctactgc aaaaccaaga
1141 agcagcggca gaagcttcat gatcggcttc ggcagagtct tcggtcagaa cggagcaacc
1201 tggatgaacat agcgaatggg cctcaccacc caaaccacc gccagagaac gtgcagctgg
1261 tgaatcaata cgtatctaaa aacgtcatct ccagtgaagca tattgtgag agagaagtgg
1321 agacttctt ttccaccagt cattacactt ccacagccca tcaactccag actgtcacc
1381 agactcctag tcacagctgg agtaatggg acacggagag cgtcatttca gaaagcaact
1441 ccgtaatcat gatgtctcg gtagagaaca gcaggcacag cagtcccgcc gggggccac
1501 gaggacgtct tcatggcctg ggaggccctc gtgataacag ctctctcagg catgccagag
1561 aaaccctga ctctacaga gactctctc atagcgaaag gtatgtatca gccatgacca

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1621 ccccggtctg tatgtcacct gtagatttcc acacgccaag ctcccctaaa tgcgccctt
1681 cggaaatgtc tccaccctg tccagcatga cgggtgccat gccctctgtg gcagtcagcc
1741 cctttgtgga agaagagagg cctctgtctg ttgtgacgcc accaaggcta cgggagaaga
1801 aatatgatca tcaccccgag caactcaact cctttcatca caaccctgca catcagagta
1861 ccagcctccc ccctagccca ctgaggatag tggaggatga ggagtagag acgaccagg
1921 agtatgagtc agtcaagag ccggttaaga agtcaccaa tagccggcgg gccaaaagaa
1981 ccaagcccaa tggccacatt gccaatagg tggaaatgga cagcaacaca agttctgtga
2041 gcagtaactc agaaagttag acagaagacg aaagagtagg tgaagacaca ccattctgg
2101 gcatacagaa cccctggca gccagcctg aggtggcccc tgcctccgt ctggctgaga
2161 gcaggactaa cccagcaggc cgcttctcca cacaggagga attacaggcc aggtgtcta
2221 gtgtaatcgc taaccaagac cctattgctg tataaacct aaataaacac atagattcac
2281 ctgtaaaact ttatttata taataaagta ttcacctta aattaaacaa ttattttat
2341 ttagcagtt ctgcaaatag aaaacaggaa gaaaaaaaaa ctttataaa taaatatat
2401 gtagtaaaa atgtgtatg tgccatatgt agcaatttt ttacagtatt tcaaaaacga
2461 gaaagatac aatggtgcct ttatgtctg ttatgtcag agcaagttt ataaagttat
2521 ggtgattct ttacacagt attcagcaa aacctccat atattcagtt tctgtggct
2581 ttgtgcat tgcattatga tgtgactgg atgtatggt tgcaaggcta gcagctcgt
2641 cgtgttctct ctctctctct ctctctctct ctctctgtct ctctctctct
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2761 cccgtagctc ccaaccagta ctgtcttga ctggcacatc catccaaata ccttctact
2821 ttgtatgaag tttcttgc ttccaata tgaaatgagt tctctctact ctgtcagcca
2881 aaggtttct tcactggact ctgagataat agtagacca gcagcatgct actattacgt
2941 atagcaggaa actgcaccaa gtaatgtcca ataataggaa gaaagtaata ctgtgattta
3001 aaaaaaaaaa caactatat tattaatcag aagacagctt gctcttgga aaaggagcta
3061 ccattgactc taatttgac ttttagtta ttgtcttga caaagagtaa cagcttcaag
3121 tacgcctag aaaaaaaaaa ggggtctggc ctgctatcag gataaatcta tcgacgtaga
3181 tagattcaac tcagttcac ttctgtctt gggggaaatg atccagccac tcatatgacg
3241 accaaccaac cacagtgcc tctgtccct gt

Figure 3

Nuclear localization sequences

SEQ ID NO: 3 KTKKQRKK

SEQ ID NO: 4 PRLREKK

Figure 4

Binding sites in Nrg-ICD for Eos

SEQ ID NO: 5 KTKKQRKKLH DRLRQSLRSE RNNVMNMANG
PHHPNPPPDN VQLVNQYV

SEQ ID NO: 6
SERYVSAMTTPARMSPVDFHTPTSPKSPPSEMSPPVSSLTISIPSVAVSPFM
DEERPLLLVTPRLREKYDNHLQQFNSFHNNPTHE SNLPPSPLRIVEDEEYETTQ
EYEPAQEPPKKLTNSRRVKRTKPNGHISSRVEVDSDTSSQSTSSSESETEDERTGED
TPFLSIQNPMATSLEPAAAYRLAENRTNPANRFSTPEELQARLSSVIANQDPIAV

Figure 5

Human Eos binding domain for DNA

SEQ ID NO: 7

LKCDVCGMVCIGPNVLMVHKRSHTGERPFHCNQCASFTQKGNLLR
HIKLHSGEKPFCPCNYACRRRDALTGHLRTHSVSSPTVGKPYKCNY
CGRSYKQQSTLEEHKERCHNYL

Figure 6

Human Eos binding domain for Nrg-ICD

SEQ ID NO: 8

CEHCRILFLDHVMFTIHMGCHGFRDPFECNICGYHSQDRYEFSSHIVRG
EHKVG

Figure 7

Peptides that block Nrg-ICD/Eos signaling

SEQ ID NO: 9 YGRKKRRQRRR
CEHCRILFLDHVMFTIHMGCHGFRDPFECNICGYHSQDRYEFSSHIVRGEHKVG

SEQ ID NO: 10 RQIKIWFQNRRMKWKK
CEHCRILFLDHVMFTIHMGCHGFRDPFECNICGYHSQDRYEFSSHIVRGEHKVG

SEQ ID NO: 11 DAATATRGRSAASRPTERPRAPARSASRPRRPVE
CEHCRILFLDHVMFTIHMGCHGFRDPFECNICGYHSQDRYEFSSHIVRGEHKVG